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Contributed Articles.

On Important Apian Subjects.

Large Hives ; Size and Shape of Hives ; and Conditions Necessary to Safe Wintering of Bees.

BY CHAS. DADANT.

(Continued from page 790.)

I was confirmed in the idea that large hives are better than small ones, by another remark which I made at that time, at the apiary of one of my neighbors. He had five or six hives in a covered apiary facing south. Those hives were placed upon strips made of inch lumber, two inches wide, and nailed edgewise on stakes driven into the ground, so as to form a sort of rack. The hives had no bottom-boards, for our friend thought that bees succeeded best when they had plenty of air. Although the hives were very large, the bees, during the hot season, would build their combs downward in the empty space below, and during a good honey crop they even extended them on the sides and upwards; so that combs were built between the hives, and most of his hives showed, on the outside, the rudiments of combs that had been cut off with a knife. Strange to say, colonies in these hives wintered successfully, and we were very much astonished, in one of the hardest winters, to find that he had not lost a single colony, while our losses had been heavy.

Here is another instance: I went to a sale in the neighborhood. This was in 1868. The farmer was selling out, and I wanted a cow and the bees that he had, if not too high in price. He had five hives, one very large, the others all small. It was in March, the weather was cold, the bees were not flying. I went to the hives and tapped the boards. The bees in the small hives answered "Zzzz;" those in the large hive said "Boooooo," and one or two bees showed themselves at once at the entrance. This settled the matter in my mind—I knew which hive to buy. When the turn came of the bees to be sold, they asked me, as a bee-man, to turn the hives over, so the buyers could see what they looked like. I turned the large hive, and a dozen inquisitive heads glanced in, but the bees soon had every farmer routed away, and no one cared to look at the other hives.

I bought the large hive at \$7.00, while the others were sold to other parties at \$5 or \$6. I bought also a cow at that sale, for which I paid \$30.00. The colony, transferred into a large movable-frame hive, filled every frame of the latter with its brood-combs transferred, while the average of those box-hives, ordinary size, would not fill over six frames. This hive yielded, during that summer, 160 pounds of comb honey, which, at that time, sold for 28 cents per pound, and its harvest not only paid for the cost of the hive, but also for the cow I had bought at the same sale. The purchaser of the other hives got next to nothing from them.

It was with the above kind of observations that my attention was first attracted to large hives in comparison with small ones, and all my later experiences confirmed this original remark, although, at that time, I did not attempt to explain the cause of this disparity.

While I was becoming convinced of the superiority of large hives by the above-mentioned experiences, another bee-keeper

—Jasper Hazen—was describing, in the American Bee Journal, the hive and method which he employed. His hive was enlarged so as to allow of placing surplus boxes on the sides as well as on top of the brood-nest. As the honey-extractor was then not yet in use, he did not enlarge the size of the brood-nest, but would increase the harvesting capacity of his colony by adding to it the population of another hive. Disposed as I was to take hold of anything that would tend to increase the honey-yield, I hastened to make Quinby hives with side room enough to give the bees six 5-pound boxes on each side of the brood-nest (the section-box was not yet invented), six behind it, and enough space on top to place, in all, over 150 pounds of honey. As I knew that an experiment made on one hive or two cannot be conclusive, I built 28 of these hives. We still have 8 or 10 of them in our apiary. The result did not come up to my expectations. The honey-bee has the instinct of placing its honey above the brood, in a place where it may be easily accessible during cold weather, and where the cluster is placed directly between it and all intruders.

My bees filled all the surplus boxes at the top, and the upper part of the side tiers; but the lower tier of boxes was not filled at all, except in one or two exceptional instances. The side boxes had to be placed at the top, in order to get them filled too. When the boxes were removed, these 28 hives had room in the lower story for 14 Quinby frames, or about 150,000 cells, and they gave me an excellent opportunity to ascertain the fecundity of the queens; for, being unable to have them filled with box honey, we placed combs in them, which were to be run through the extractor. The queens, in these hives, had room for 7,000 eggs daily. This number was too great, and thus I had a chance to see to what capacity we could extend our hives without overdoing the job. The conclusion was that 85,000 cells for the brood, or 8 Quinby frames for brood, and two frames for supplies were about the right number. I thus reduced my hives to 11 spaces, keeping one space for a dummy, and the other ten for frames. I have never had occasion to regret this.

If I were to start again, however, I would make the Quinby frame a little shallower, so as to be able to use 12-inch boards for hive making. A half inch of difference would secure this. We would also make the length of the top-bar the same as that of the Langstroth hive, which would secure uniformity in the surplus cases with those already in use so far as length is concerned. A hive of this size and style is now largely in use in Switzerland, France, Spain, Italy, and a little in Germany, under the name of "Modified Dadant" hive, because I introduced this style there, through the Revue Internationale d'Apiculture. Each comb, in a hive of this size, has a surface of 193 square inches, and leaving two combs for the supplies, pollen and honey, we have 81,800 cells, which, divided by 21—the number of days which it takes for bees to hatch—gives the queen 3,900 cells per day.

Many people will say that, with such a large hive, one cannot produce comb honey. I beg to say this is an error. I have produced lots of comb honey with large hives, although it was then in small boxes and in Adair section-frames; but the pound section is just as convenient as the Adair frame, and much more so than the glass box of old, which was so objectionable to the bees, owing to the inability of ventilating it in hot weather. It is worthy of notice, however, that in bad seasons, when the weather is such, during the Spring, that the queen cannot make use of all her powers of fecundity, a small hive would succeed better, if we could not reduce the space in these large hives so as to fit the needs of the colony. This is

very easily done with dummies, and we find ourselves in the same condition as the 8-frame bee-keeper, with the difference that he cannot enlarge his hive gradually as occasion requires, unless he doubles its capacity by tiering up two hives, which is making too much of an enlargement at one time.

But, in our own practice, although we contract our hives, when the colony is feeble, to keep it warm, we never try to harvest any honey unless the lower story is filled to the full capacity. Here, evidently, our 8-frame bee-keeper thinks he has the advantage over us; but we do not think so, and we will tell you why in another article.

Hamilton, Ill.



The New Constitution for the Union.

BY THOS. G. NEWMAN.

In reply to Dr. Miller's strictures, on page 790, kindly let me say that I wish he had had the work to do, and then I think he would feel differently. I labored diligently to get the matter before the Committee, at as early a date possible. Then the Report of the Committee, as first drafted, was sent to each member, and all were invited to criticize it. They did so, and then the amendments suggested by each one were formulated and again sent to the other members of the Committee for consideration. Some approved, while others did not. Finally, after several of such revisions, all agreed on the Report of the Committee, as now published.

Then, the Constitution of the National Bee-Keeper's Union had to be revised by members of the Union, so as to be submitted (for voting) on January 1, 1896, when the General Manager's Report will be sent to the members. This proved to be more tedious than the Committee's Report. After scores of changes were suggested by the different members, it was put into type and sent for further consideration and revision. Then more suggestions came, making other revisions necessary, and all were printed and again sent out for consideration. When this work was all done, the Constitution was sent to the bee-periodicals to be published, so as to have the whole thing discussed, and further suggestions made.

Now that is being done, and in order to accommodate all, I will not have the Report printed until after January 1st. Every person interested can therefore have full opportunity to criticize and offer amendments.

All the suggestions that are deemed practical, will be incorporated into the Constitution when presented for a final vote. The suggestions of Dr. Miller are good, and will receive full attention. The "secret ballot" matter is, however, quite unnecessary. When it is *written*, it certainly is definite, and unchangeable. I see no objection to having a committee count the ballots and declare the election, if it is preferred. But "secrecy" is totally unessential in this case, I think. The Executive Board could appoint a "Committee on Ballots," who may have full charge of them, and count and declare the election. Anything in reason, I am in favor of. I have "no ax to grind;" I never wanted the office of General Manager, and am quite ready to give place to my successor when elected.

The suggestions about Canada, given on page 793, are quite in order; and while the omission was unintentional, I may say that the matter as recommended will be incorporated into the copy to be voted upon. It was rather strange, however, that such were not suggested by some of the three Canadians on the Committee. It was evidently an oversight—but one that is already remedied.

Let us have a full, free, careful and friendly criticism. The "best"—the nearest to perfection, is just what was desired by the members of the Committee and others who helped to formulate the New Constitution; and if all interested will now help to make it even better than when it was first published, no one will be better pleased than the writer.

Chicago, Ill., Dec. 12.



An Experience in Wintering—Report for 1895.

BY GEO. W. WIRT.

In the fall of 1894 I put 75 colonies into my cellar, Nov. 5, tiering them five hives high with the exception of 10 colonies I wished to experiment with. The 65 hives were arranged with the entrance in front entirely open the width of the hive, being a 10-frame Langstroth-Simplicity hive. I also had an open space at the back of the hive, half an inch high, and the width of the hive. The bottom-boards are nailed to the hive. This gave the bees, as I thought, plenty of air from the bottom. The 65 had sealed honey-boards on top, and no upward ventilation, or no ventilation from the

top. On five I took off the top, also the honey-board, and covered the frames with two thicknesses of unbleached cotton-cloth, and on the cloth a piece of felt paper the width of the hive and 12 inches wide. The paper in almost all of the hives covered the majority of the bees, leaving a space of just the cotton-cloth. I closed the bee-entrance, giving them no ventilation from below.

Four of the others I prepared the same as the five above, with the exception of the felt paper, giving them only the cloth on top. One I removed the top and honey-board, leaving nothing on top; closed the entrance below, giving no ventilation from the bottom, and about twice a month I gave them a good shaking up. I believe it is generally understood that bees must not be disturbed while in winter quarters, and I am of that opinion myself, but for all that the colony came through all right. They used some more honey than the other colonies, but aside from that I could see no difference.

The colonies with sealed covers came through the poorest of any. Those with the cotton-cloth and felt paper were in fine condition in the spring, with combs clean and bright, and less dead bees on the bottoms of the hives; and that is the way I have prepared my 140 colonies for this winter.

I see Mr. B. Taylor has very much the same arrangement, with the exception of ventilation—he ventilates the hive from the bottom. I would not dare to do it, as it would form a current of air through the colony which, to my mind, would be injurious, but I take much stock in Mr. Taylor, and am free to admit his superiority with the bees, for three years ago he wintered his bees with a loss of only about 40 per cent., while I lost 253 colonies, being every colony I had. Most of the bees in this vicinity died that winter, the trouble being bee-diarrhea.

By the way, Mr. Taylor says he expected to put his bees into a dark, ventilated cellar. What is he doing with the bee-houses he was recommending for wintering bees in, a few years ago?

I took 4,000 pounds of comb honey in one-pound sections from my 140 colonies this year, two-thirds of it being dark honey. We had but very little honey from Linden, as the early frost killed the buds, and the drouth of 1894 killed all the white clover; but, as Mr. Taylor says, I think 1896 will be the great honey year, as everywhere white clover is in abundance, and Mother Earth is once more well watered.

I would like to say something about the large and small hives, the spacing of brood-frames, and so on, but the matter has been so thoroughly gone over with, that it seems almost useless for a man of my small capacity to gibe in, but for all that, I have some ideas of my own on the subject. I will just say here that I use closed-end frames in the brood-chamber, and I venture to say that the time is not far in the future when nine-tenths of all the bee-men will use the same, for the reason that they cannot afford to use any other. I will tell you why, some of these fine days.

Oronoco, Minn.

[Mr. Wirt, I hope you will feel free to send on those ideas you have now locked up in your head. All will be interested in reading them.—EDITOR.]



What Dr. Miller Thinks.

THE CALIFORNIA HONEY-EXCHANGE.—Those Californians have my heartiest wishes for success, and I'll watch with much interest the outcome. Such things haven't heretofore panned out well, but I'm more hopeful about this.

CHAS. DADANT AND BIG HIVES.—For years and years the Dadant's have kept on using large hives, notwithstanding they partly went out of fashion, and through all the hot discussion as to big and little hives they have maintained a sort of exasperating silence. When I was down at the Springfield convention I tried to anger C. P. (the son) into standing up and giving in print whatever facts they might have to justify them in holding so stubbornly on their way, but all I could get out of him was a good-natured laugh, along with the assertion that their position was well known. But now the father has opened up on page 789, and I'm wondering before he gets through how big a hive he'll want us to have.

As I read the vigorous article on that page, I can't help wondering at two things. One is, that the elder Dadant can use the English language as he can in writing. He makes out very poorly at talking it—you're pretty sharp if you can understand his broken English at all—but who would think he had any trouble with the language from seeing his work on the printed page? The other thing that surprises me is the won-

derful vigor of mind for a man of such advanced years. He will be 79 years old next May, and yet he seems to be as bright as ever in all respects save one—and that is, he doesn't know enough to enter his dotage when he has arrived at the proper age therefor! In this last respect he's inconsistently idiotic.

Perhaps I'd better label that last remark as a joke, for I came near getting into trouble once from omitting the label when I spoke of the Dadants as "those miserable Frenchmen." A reader of *Gleanings* not knowing of the warm feeling between the Dadants and myself, "roasted" me for my remarks. I suppose I deserved it.

OVERSTOCKING A LOCALITY.—F. L. Thompson says, on page 790, that he wishes I would tell how I know when there is a poor yield. Well, Bro. Thompson, I know it just as you do—by finding my supers left unfilled. Now are you satisfied?

But I'll not be mean enough to leave it at that, but take your request as you meant it, and you can settle with the Bee Journal office for tampering with your punctuation and putting in that semicolon where it wasn't needed. Or did you do as I so often do—leave out the punctuation so the puzzled compositor might guess at it?

You want to know how I can tell whether it's overstocking or the season that's to blame for a poor yield. The fact is that I can't tell. But I just won't agree with you that there's something shaky about the idea that the bees crowd one another on the blossoms more in a poor season than in a good one. That is, if you mean by that, that when nectar is so scarce that a given number of bees have hard scratching to get a living, that number can be doubled without making the chances any poorer for each. Surely, you don't mean there isn't such a thing as overstocking, for you plainly say you believe that Mr. Carlsen's locality is overstocked; but perhaps I misunderstand you in some way, and I shall be glad of further enlightenment. That saying, that when a season is good for 200 it's good for 600 in the yard, is one of those half-truths that sometimes make mischief. Suppose in a good season 200 colonies can do well, you certainly will not deny that the number might be increased until all would starve? Now, will you?

CHICAGO HONEY-PRICES.—On page 791, the editor is quoted as saying, "It seems to me that the actual wholesale selling prices of honey on the very day the dealer quotes should be given." There's no particular point in quoting those words and then leaving it at that. What I meant to have added was, that I always thought and still think that the dealers so meant the quotations to be understood. Will the editor please tell us how he understands them?—[I've been waiting for some honey-dealer to "pick me up" on that remark. I think when I wrote it I must have had in mind circular quotations that some dealers send out by mail.—EDITOR.]

BUILDINGS FOR WINTERING BEES.—I'm somewhat skeptical about the success of such things, but if a man has succeeded in wintering in a special building, that's an argument that carries weight. So I'm much interested in the experience of L. M. Willis, as given on page 791, and am wondering whether he owes his success to the very thick hollow, or rather stuffed, wall. If such a building can be confidently relied on, it would meet the wants of a great many. Will Mr. Willis, therefore, please answer some questions? What is the inside measure of your building? How many colonies have you kept in it? How many years have you used it? What is the actual per cent. of loss from the time of putting in till the first of the following June? When did you, or when will you, put them in this winter?

APIARIST AND BEE-KEEPER.—I sympathize with my Canadian friend in his desire for words that express fine shades of meaning, as expressed on page 793; but I think he hardly makes out that an apiarist is any other than a bee-keeper. Indeed, after fully arguing the case and apparently proving that an apiarist is much the smarter man of the two, he backs down from his position by saying, "If 'apiarist' is not satisfactory." There's a weak spot in his logic when he says an apiary "is supposed" to have a lot of "fixins." I never understood that a smoker was part of an apiary any more than a curry-comb is part of a horse-barn. And I don't think that the possession of an apiary necessarily implies bee-lore. If he should sell out his apiary to-morrow, wouldn't the man that bought it possess an apiary, even if he didn't know a drone from a worker?

WHAT DOES HE MEAN?—Quoth ye editor on page 796: "I do not know what bee-keeper crated the honey bought, but whoever it was, he will crate, sort or grade, no more for me."

Does he mean he'll never, no, never, buy another crate of honey?—[No, sir; he didn't mean that, at all, for he has bought another crate since then, but it was not put up by the same bee-keeper, as the first crate came from Arizona and the second from Wisconsin. *Locality* makes lots of difference—in some things!—but this time the difference must have been in the bee-keepers. I expect to continue to buy crates of honey hereafter just as heretofore, for I try to set a good example by eating honey at least twice a day, thus doing my share toward finding "a market" for reducing the surplus honey crop. If every one of the seventy millions of people in the United States would eat all the honey they ought to, they would feel better—and so would the bee-keepers who would thus find a ready demand for all the honey they could produce, and at a good price.—EDITOR.]

THE NORTH AMERICAN BEE-KEEPERS' UNION.—On page 793, the Canadian representative takes it to heart that in the new Constitution Canada has been left out. Shake, my Arctic brother, shake. We're both in the same boat. Left out United States, too! Marengo, Ill.



Phenol Cure for Foul Brood.

BY L. W. BECKWITH.

With the editor's permission, I will criticise Mr. Clarke's criticism on my former article with the above heading. He says:

"He quotes me very unfairly by merely giving my statement that all who tried the phenol cure on its first appearance failed to make it a success. Why did he not give the reason I gave for their failure? Reason enough—the bees never took the medicine."

Mr. Clarke did not tell us in his first article, that "the bees never took the medicine;" nor any intimation that that was the trouble. On the contrary, he says Mr. Cheshire made the treatment a success, and published the recipe to the world; that great numbers tried this same recipe, and all failed. Does he mean to say now that "Cheshire was 'content with putting the phenol in the hive,' and that was the recipe he published to the world, and which others tried?"

I am well aware that "there is no germ of the disease outside of the microbe and the spore;" and that is where the trouble lies, for these germs or spores are contained in every cell that has ever contained the diseased larvae, and all such comb must be removed from the hive or be disinfected. It seems to me that Mr. Clarke's witty illustration of putting the blister on the tool-chest fits nothing but his own case, and that exactly. He tells us that all those who tried phenol used it as they were told; but he feeds some acid to the bees in order to disinfect the comb where they deposit none of the medicated syrup, and says: "This is a thoroughly scientific mode of treatment."

He now tells us, "There is no difficulty, as he supposes, about using phenol during a moderate honey-flow;" but in his former article says, "It must be fed to them when there is no honey to be gathered, They will do this if they have no honey to gather from outside. . . . They must have no other resources." After making the statement so very emphatic, repeating it three times, I supposed he meant what he said.

"He quotes me very unfairly" in saying I "assert that both Mr. Cheshire and Mr. Clarke were deceived." Why did he leave out the word, "probably?"

As Mr. Clarke has made so many mistakes in his articles on pages 590 and 706, it is reasonable to suppose he would be liable to make some in his experiments and reports.

I still think, as I said before, that the encouragement is not sufficient to justify me in trying phenol, especially when I compare his article on page 174 with what he has said since. Grover, Colo.



Lengthened Life in the Bee—the One Important Object in Breeding.

BY WM. S. BARCLAY.

Can it be that the assembling of the North American Bee-Keepers' Association at Toronto, Ont., awakened our Canadian brethren to new life? Far be it from me to assert they have been leading the lives of drones in the hive, for many and valuable notes from their pens we have had from time to time, but permit me here to say that no more valuable or practical article has appeared in the columns of the "Old Reliable" in the past year, than that written by Mr. VandeVord, on the

"Importance of Longevity in Bees;" and I know of no better way to class it than to say it is *common sense boiled down*.

I have been an occasional contributor to the Bee Journal for more than one-fourth of a century, and although I never could claim for myself the name of being a diffident or backward man, it was always with much hesitation that I attempted to open up a new question for discussion among my fellow bee-keepers, and here comes in the question of theory vs. practice. Pardon me for here charging that we have had too much of the former, and quite too little of the latter.

How well do I remember that in the early '70's, when our "old favorite" had not attained the distinction of a "weekly journal," and after I had bred the Italian bee for four or five years, I wrote an article asserting that I could procure more honey from the *first cross* of the Italian with the German bee (either the Italian drone with the German queen, or the German drone with the Italian queen, *preferring the latter*) than I could obtain from a pure colony of either variety. I said to my wife that I would surely arouse the displeasure of queen-breeders, and thus get my hands full of trouble. But how glad was I to see in the next monthly, where my notes appeared, a splendid article from one of our best honey-producers, taking nearly the precise position I had; and how much more glad was I to see in the succeeding monthly, an article from a prominent queen-breeder, candidly admitting that his experience had led to the same conclusions. Then I felt safe, and glad, because my observations had been carefully and honestly made.

So, as regards the article of Mr. VandeVord, let me here say that if I was asked what is your first requisite in the breeding of the queen-bee, my reply would be: "Longevity in her worker progeny." One point in relation to this will, I presume, scarcely be controverted. Of all the points in the breeding of bees this one is the most difficult to arrive at a satisfactory conclusion upon, for the reason that it requires the closest, longest, and most difficult observation.

I had not long practiced the crossing of different varieties of bees until I noticed the prominent fact observed by Mr. V., viz.: "That the colony having a small space of brood, *regularly kept up*, stored more honey than those crowded with brood;" but I was a long, long time in learning why such was the case, but observing that the honey was still accumulating rapidly, I did not conclude as did Mr. V., *to remove the queen*. What led to the discovery of the facts in the case was this: How many of us who worked bees in supers and sections for comb honey, have anxiously watched colonies thus prepared, and which appeared to be extremely industrious, only to be disappointed upon looking at our sections, only to find that little progress had been made. Instead now of watching the sections, I make my observations *at the entrance of the hive*; if indications there do not lead me further, I have no need to examine the sections.

A few reflections on the habits of bees at work, led to the following conclusions: We all know that bees (some say young bees), in almost all colonies, sport before their hives. Years ago the question arose in my mind, "Is it *only young bees* which do this?" and "Do they *all* only do it at this time?" Observe two colonies of equal strength within a few feet of each other—while one appears full of excitement and very industrious, the other works quietly and steadily along, and without any excitement. But if you have an alighting-board (as you should have), observe that in the steady-working colony many of the bees are strewn away down the board so heavily laden with honey that they could not reach the entrance. Go to the active colony and you find scarcely one-third their force heavily honey-laden, and the rest merely sporting before their hive. Query: Why should not some varieties of bees be given more to sport than to work? Again I ask: Do all bees only sport at a certain time, and only at that time? Closest observation teaches me to say no; most emphatically *no*!

Although I feel I could enlarge with profit upon the important questions opened by Mr. VandeVord, I will only say further to those who are willing to investigate it: In examining the amount of brood, be sure that numbers do not decrease, and do not dethrone a queen which may be the most valuable in your apiary, without just and sufficient cause.

I feel like saying that if we ever reach that apparently much wished for object—"the prevention of swarming"—it will be upon the line of investigation suggested by Mr. VandeVord.

In closing I may say that after an experience of 30 years I have no reason to change my opinion in relation to the *first cross* of the Italian and German bee, but all has been in confirmation of the assertion then made. I am in doubt, however, as to whether it would hold good in the first cross of either of the yellow varieties, but have reason to assert that a

first cross of the German with either of the yellow varieties (the Syrian, Cyprian or Holy Land) will produce the same result. May I go still further and say that this gives just cause for the assertion that in the production of the future "Apis Americana," it will be necessary to have at least a touch of German blood? Upon this point, as well as a comparison of the dark or leather-colored Italian, with the golden and 5-banded Italians, I hope to have a word to say in the early future. Beaver, Pa.



Do Bees Reason, or-Do They Not?

BY DR. E. GALLUP.

This is a nut for some of the smart ones to crack. Years ago, when I lived in Wisconsin, I had a swarm of bees leave me and start east. The following March I went with my team to cut up a large limb of a burr oak, and haul it home for firewood. I found a few bees on the snow, and knowing that they could not have come from home, I looked around for them. I saw what looked like a sheet of white comb, about 30 feet high, where the large limb split out of the tree. Now here was my swarm of Italians. They had built their combs from rear to front, and the hole that the limb made was in the form of a V, about 10 inches deep, and 6 or 8 inches wide at the top. To protect themselves from the west wind they had built a sheet of drone-comb across the entrance, with cells on the inside of the comb, but none on the outside, and the outside of this door or curtain was glazed over. This could not have been built in winter.

I built a substantial platform, or staging, sawed off the top of the tree, and let it fall. Then I sawed off the log about 4 feet long that contained the bees, lowered it with ropes onto the sled, and hauled it home, and of course transferred them in the spring. Back of where this branch had split out, there was quite a cavity for the hive.

Again, in California I found a swarm or colony in a clump of willows, within one mile of the ocean, nothing intervening to break the force of the cool west wind directly from the ocean. They had evidently been there three or more years. The combs were attached to a limb about 1½ inches in diameter; the first or center comb attached to the under side of the limb, the next two were attached to the sides and built out over the center comb with brace-combs on the under side to keep them from settling on the center comb; the next two—one on each side—were attached to the same limb, and built out nearly horizontal, with brace-combs underneath, until they were out far enough to extend them perpendicularly. Now here were five combs, the center one about 12 inches wide and 18 inches deep, the next two a little narrower and shorter, and the outside ones still smaller. Then there were two drone-combs attached to the limb at each edge of those combs, built concave next to the combs, and convex on the outside, and thoroughly attached to the edges of the other combs with braces.

Now, the wind would teeter the mass of combs, both up and down, and sidewise, but they were braced so that all moved together. The outside drone-combs had no cells on the outside, and neither did the side or worker-combs have any cells at the top, and all was thoroughly glazed with propolis on the outside except the two worker side-combs where they had cells on the outside.

You can readily see that those bees had solved the wintering problem for themselves, and were thoroughly protected from rain and wind. All those combs were built extra strong at the top. Of course, if we had some of our extra-hot Eastern weather they would have been apt to have melted, as they were right in the sun except for about three hours in the middle of the day. When the leaves were off they had the full benefit of the warm sun in winter.

Those two cases, to me, look awfully like "reasoning." I could cite similar cases, but the above will answer to begin with. Santa Ana, Calif.

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Questions AND Answers.

CONDUCTED BY

DR. C. C. MILLER, MARENGO, ILL.

[Questions may be mailed to the Bee Journal, or to Dr. Miller direct.]

Sweet Clover Probably the Best.

1. Which plant would be best to sow on waste places and pastures without doing any injury to the place, such as getting into the fields? Is sweet clover very good?

Over one-third of my bees have already died this fall from the moths. U. T.

Leon Springs, Tex.

ANSWERS.—1. I have some doubt whether you could strike anything better than the one you mention—sweet clover. It will spread along the roadside and in waste places, but it is a rare thing for it to get a foothold in the fields. If it should get in, it isn't hard to get out, for it is a biennial, dying out root and branch at the close of the second year. So if it is kept cut down the second year so as not to go to seed, that's the last of it. By a little attention to the matter you may train horses and cows to eat it, and thus have a valuable forage plant, both for green feed and for hay, as well as an excellent honey-plant.

Transferring Bees.

1. The hive I use is a chaff one, after Falconer's pattern. The outer wall is of $\frac{3}{4}$ -inch lumber, plowed and grooved together. The inner walls are $\frac{1}{2}$ -inch lumber, the height of the brood nest. The size of brood-chamber is 14x16x9 $\frac{1}{2}$ inches, with chaff packing space 2 inches all around. I use 10 frames, 16 $\frac{1}{2}$ x1 $\frac{1}{2}$ inch top-bar, 9 $\frac{1}{2}$ deep. On top of these hives I can use the T supers or pattern-slat supers of 28 sections, or almost any other super I wish. As for single-walled or dove-tailed hives, I can screw one piece on each end $\frac{3}{4}$ x2, and it is ready to take on any 28-section super, either a T or pattern-slat.

As to the size of frames, if I change from these it will be for the deeper. I winter my bees with an arch device, and forest-leaves packed on top of them. I make all my hives, supers, and accessories for my small apiary and a few for friends, by foot-power machinery.

2. I will give my experience in transferring last spring. I bought a colony in a hive for \$1.00 and transferred it to movable-frames, according to the old method, that is, remove the honey, brood and suitable combs, and filled up the balance of the hive with comb foundation. It paid well. They gave me 70 capped sections, 14 uncapped, and plenty for winter. I tried to do the job under Heddon's new way, by the instruction in the "A B C of Bee-Culture;" I also tried another colony in a nail-keg, and failed in both instances. I followed instructions by drumming for about two hours, and I could not get them up into the box for that purpose. I operated both colonies the same way, by turning the hives bottom side up, and drumming with sticks on the sides, puffing smoke in here and there, where I could get smoke in, and could not get them up.

I have the balance of my bees to transfer in the spring, if they winter. If you can give a few pointers on this, please do so. I am like the boy—I will try again—that is, Heddon's new way, by putting on full sheets of foundation, instead of running them into a small box. I will put on a small 5-frame hive, with a couple of frames of unsealed brood from another hive. If there is anything I should or should not do, please inform me.

I practice spring feeding to stimulate early brood-rearing. For using the feeder, simply pull back the quilt from one side, and uncover three frames, and lay the feeder on. By the construction of feeder, the most of the heat is retained in the brood-nest.

Koch, Ohio, Nov. 25.

A. M. S.

ANSWER.—I really don't know why you should fail in drumming the bees out. Certainly two hours was long enough for any reasonable bees. Possibly you were too mild-mannered in your pounding, for it should be no gentle tapping but a pounding that would make the bees think their house was coming down about their ears, and the best thing would be to save their lives by getting out of it. Whether the smoke did good or harm depends upon how it was used. If blown in at the junction of the hive and the driving-box, it might drive them

down instead of up, for bees are inclined to retreat before smoke. Unless there was a place of entrance somewhere near the ground, the smoke would hardly help.

I think your scheme of putting a couple of frames of brood in a hive to drum them in will help. Indeed, if you turn the hive upside down and set over it the new hive with one or two frames of brood, and leave it thus for a day or so, you'll find a goodly number of bees taking care of the brood. Of course, the bees must be allowed to fly out. Then it will take less time to get the rest of the bees drummed up than if they were to go into an empty box.

Possibly you might like this plan: Wait till the bees swarm, and then hive the swarm in your frame hive, setting it on the old stand and putting the old hive close beside it. In four or five days remove the old hive to a new locality, and that will make a pretty sure thing of it that there will be no second swarm. In 21 days from the date of swarming all the brood will be hatched out, and you can then drum out the bees into a frame hive. Having no brood to protect they will be more easily driven.

Wintering in a Large Hive—Swarming, Etc.

Suppose I make a hive 20 inches square, outside measure, and allow a swarm to fill the hive before extracting any, and winter the bees with every pound of honey in the hive that they gathered through the season, extracting all just before the honey-flow in the spring—

1st. Is there any advantage in wintering bees with a large hive full of honey?

2nd. Will they breed up better in the spring?

3rd. Will a two-story, 13-frame Langstroth hive prevent swarming?

4th. Is the honey just as good where left in the hive all winter?

Please point out all defections and advantages in this plan. Davison, Mich. E. B. T.

ANSWERS.—1. I suppose the thing might be overdone, but there are advantages in a good supply of honey. For one thing, you can feel secure against the danger of their running out of stores and starving if you feel sure they have a good deal more honey than they can possibly use. Without being able to see any good reason for it, you will sometimes see one colony use up two or three times as much stores as another colony that appears, so far as you can see, to be just about the same. So it's a good plan to let every colony have more than as much as you think will be used by the colony that uses the most.

2. B. Taylor—and he's a man whose opinion I respect—thinks it's just as well to have enough stores on hand at all times so there's no danger of immediate want, supplying from time to time as the supply runs low. But I think nearly every one else is agreed that bees will breed up better in spring if, on taking stock, they find quite a surplus on hand so they needn't be anxious about the future. I certainly would rather my bees should at all times have stores ahead. Another item is, that it's easier to keep a small space warm than a large one, and if the cells are filled with honey there's just that much less air-space to keep warm.

3. A two-story barn wouldn't always keep bees from swarming. But as a rule they will swarm less in a large hive than a small one. I should hardly expect half as much swarming in a two-story (or a one-story) hive containing a total of 13 frames, as I would in a hive containing only eight frames. If you mean 13 frames in each of the two stories, I should expect still less swarming. But remember that no amount of room will always, without fail, prevent swarming.

4. If the honey is well ripened before cold weather sets in, it will probably be just as good. If thin, it may candy. With a good, strong colony, well wintered, I should expect the honey to be as good in spring as it was the previous fall, and in some cases better.

Honey from Mountain Laurel.

The following clipping is from the New York Sun, of Nov. 26, 1895:

"TRENTON, N. J., Nov. 25.—Dr. Wm. Elmer has received from Theodore G. Wormley, the analytical chemist of the University of Pennsylvania, a report on the samples of honey sent to him last week. Mr. and Mrs. John S. Chambers, of this city ate some of the honey and narrowly escaped death.

"Dr. Wormley says he has failed to find any metallic or organic poisons, but that experiments made upon dogs show that

the honey contains a most prompt and potent poison, which produces all the symptoms observed in the cases of Mr. and Mrs. Chambers, and caused the animals' death within a few hours. He says the symptoms resemble those observed in reported cases of honey poisoning in which the poison was attributed to honey collected from the *Kalmia latifolia*, or mountain laurel, which is abundant in this State. The honey which poisoned Mr. and Mrs. Chambers came from Ocean county, where there is much mountain laurel growing in the pine barrens.

"Dr. Wormley says the plant has long been known to possess poisonous properties, but repeated examinations by different chemists have failed to separate the poisonous principle or determine its chemical properties. He will continue his examinations, in the hope of making the discovery.

"Several of the leading grocery stores in the city have honey that was supplied by the same Ocean county bee-keepers, but they have had no demand for it since the reported case of poisoning, and the incident is likely to result in a boycott of the bees."

The circulation of such reports (unchallenged by any of the recognized authorities on the rearing of bees and the production of pure honey), will effectually put a stop to the consumption of honey in New York, Brooklyn, and vicinity.

Is it possible for the bees to store honey which will have such an effect upon the human system, that consumers of it narrowly escape death?

J. W. S.

Brooklyn, N. Y.

ANSWER.—Mountain Laurel—*Kalmia latifolia*—has always had the name of producing poisonous honey. It seems a little strange, however, that any real case of poisoning therefrom, even in a mild form, is so seldom heard of. For mountain laurel is no new or rare plant. It grows by the acre over a widely-extended surface, and if honey from it be such a terrible thing, there ought to be sicknesses, if not deaths, constantly occurring. In my native place in Westmoreland county, Pennsylvania, the beautiful flowers of the mountain laurel grew in profusion every year. Yet I never heard of a case of honey-poisoning anywhere in that region. I wonder if the case in question is not very greatly exaggerated. Possibly "narrowly escaped death" may simply mean that they were made sick, as they might be from injudiciously eating candy or any other sweet. It is entirely in the range of possibilities that the imagination of an enterprising reporter has been drawn on pretty heavily.

Canadian Beedom.

Five-Banded Bees—Spores of Foul Brood.

As announced on page 796, the annual meeting of the Ontario Agricultural and Experimental Union was held at the College in Guelph, Ont., Dec. 12 and 13, and a large number of subjects came up for discussion. Among others a summary of experimental tests with five-banded bees was given by Mr. R. F. Holtermann, Director of co-operative experiments in apiculture. It had not been a favorable season for bees, but so far as tested the five-banded strain had not distinguished themselves by any special marks of superiority.

The Director further stated that Dr. Howard, author of a pamphlet on foul brood, had advanced the idea that exposure to the atmosphere would sterilize, if not absolutely kill, the spores of the disease, and some experiments not yet completed were being made to test his theory.

Some discussion was had on both these topics. It was thought that on the whole the five-banded bees were inferior to those with fewer bands, and much doubt was expressed in regard to Dr. Howard's foul brood theory as to the sterilization of spores.

Mr. R. L. Taylor's Comparison of Section Comb Foundation.

Michigan's apicultural experimentalist has had another trial of section comb foundation. It confirms the result of a similar trial last season so far as to show that the Given foundation appears to be preferred by bees, but strange to say an old sample of Given, manufactured a year before the experiment was made, easily leads all the others in quality. It is especially superior in the texture of the wax from which it is made, and far excels the hard, brittle samples of Given that

were compared with it. No one has ever supposed that age improved the quality of foundation. The element of superiority must plainly be the wax. Now, then, why is some wax hard, brittle, and uninviting to the bees, while other wax is of opposite qualities? This is the question before the "meetin' house."

The most remarkable thing about this experiment is the great difference shown in the quality of the two samples of Given foundation, and that is in favor of the sample which had been the longest made and was also lightest in weight. So far as I can deduct practical conclusions from this double series of experiments, I would be inclined to note the following:

1st. That all the samples of foundation made by the leading manufacturers are good enough to give excellent results, that of the Dadant's being a good second to the Old Given.

2nd. That, after all, the shape or style of the cells does not matter so much, the all-important thing being to have the wax so pure, soft, ductile, and easily moulded that the bees have no difficulty in fixing it to suit themselves.

3rd. That it might be an advantage to have that sample of Old Given foundation analyzed, or its exact composition ascertained in some way or other.

The Demise of Three Bee-Papers.

It is a very prosy, matter-of-fact obituary notice that is given on page 781, of three defunct bee-papers. Usually when the decease of a human being is noticed in the newspapers, there is something said about the history, career, and virtues of the departed. In the present case we are simply told that they have "dropped out of existence." Has nobody a word of eulogy or a tear of regret for them? Kirke White says:—

"The autumn leaf is sear and dead—
It floats upon the waters' bed;
I would not be a leaf to die,
Without recording sorrow's sigh!"

There are instances in which the death of human beings is an actual relief to survivors, and I am unfeeling enough to say that I would not be sorry if two or three more bee-papers would give up the ghost. So far, Nature's great law of "the survival of the fittest" appears to have gone into effect, and I hope it will continue to be so in any farther instances of mortality, among bee-periodicals. Dr. Watt's lines in regard to some human beings would apply with a little emendation to a certain class of bee-papers:—

"There are a number of us creep
Into this world to eat and sleep,
And know no reason why they're born,
But merely to consume the corn,
Devour the cattle, fowl and fish,
And leave behind an empty dish,
And if their tombstones, when they die,
Wer'n't taught to flatter and to lie,
This, and this only, would be said—
That they have eat up all their bread;
Drunk up their drink, and gone to bed!"

OLD YEAR, GOOD-BYE.

Old Year, good-bye; you've borne from me
That which has been full half my life for twenty years,
And left me naught save sighs, unanswered prayers and tears.
My dead lie low beneath the frozen clay;
No grass grows green above their narrow bed. In vain I call,
No answer comes from earth or sky to bring me back my all.

Old, tear-stained Year, good-bye, I weep no more;
You bear with you, sad year, what tears I have to give;
My eyes are dry, and in their fountains tears no longer live.
If for all time could I but be at rest,
And pass away serene and still, like you—my mission o'er,
It would be sweet, and I could ask of Heaven nothing more.

Old Year, you go, but I must wait awhile,
And do the part that has been set for me to do, and smile
When others smile, and laugh, though my poor heart should break
the while;
For children's voices sound, sweet, echoing chimes,
That bind me still to earth and time, and bid me grieve no more.
A New Year dawns. The world will still go on just as before.

And so to you, Old Year, I say good-bye.
The New Year's light shall through the mist of tears a radiance send.

Behold! "Lo! I am with you always, even to the end."
So, while I strive as best I may to be
To those I love all they have lost, and fill my own place still,
Perhaps in His own time and way I yet may do His will.

—MRS. A. L. HALLENBECK, in Progressive Bee-Keeper.

Among the Bee-Papers

BROWN SUGAR CANDY FOR WINTER.

My bees were all wintered last year on stores of sugar syrup. A few colonies had cakes of sugar candy besides. Most of the candy was made of granulated sugar—the rest of light brown sugar. The colonies that had the brown sugar candy were the ones that came out ahead in the spring. Why was this?—Mrs. A. L. Hallenbeck, in *Progressive*.

LYSOL FOR FOUL BROOD.

Lysol has cured many colonies of foul brood by simply being fed to them, if we can believe the reports. It may cure for the time being, but suppose there is old, infected honey sealed up in the hive, and, later, this is unsealed and fed to the brood, foul brood will be again developed unless my reasoning is greatly at fault. How is this, Lysol feeders?—Editorial, in *Review*.

ATMOSPHERIC CONDITIONS.

That other Miller, in *American Bee Journal*, of October 24, quotes from *Progressive* what I had to say regarding atmospheric conditions in relation to nectar secretion, and then asks: "Well, and suppose you do find out just the right conditions for nectar yielding, what are you going to do about it? What can you do to change the condition of the atmosphere?" I must confess I did not expect that question to be thrown at me so soon, but I'll tell you, Doctor, if you will promise not to tell any one else: I don't know.—S. E. Miller, in *Progressive*.

SOMETHING WRONG WITH THE FIGURES.

"According to *American Bee Journal*, page 573, France, in 1893, produced 6,432,607 pounds of honey, and 4,427,157 pounds of beeswax. Don't believe it. Something the matter with those figures. My bees will not produce 4 pounds of wax to each 6 pounds of honey; and I decline to believe it of the French bees."—Hasty, in *Review*.

Another discrepancy is that the price of honey is 32 cents a pound, and wax less than 20 cents. But the figures were taken from the U. S. Government Report, which often gets pretty well mixed up on figures as well as on some other things.

BEES GOOD-NATURED IN THE SHADE.

Mr. Muth-Rasmussen once stated that bees are better-natured in the shade, and his statement was poo-hooed. A neighbor had an apiary that made the life of himself and family a burden. They were the most vicious bees I ever saw, and were a constant annoyance to me as well, so I bought them. He had them out in the shade of a row of apple-trees, within a few feet of a public sidewalk, and in the shade they are as gentle as any bees I have. Eastern apiarists should remember that conditions with us are entirely different from the East. If they could stand their bees and themselves out in the heat when the thermometer registers 112° in the shade, they'd soon find both the bees and themselves changing their angelic dispositions.—E. H. Schaeffle, in *Gleanings*.

NOT MUCH OF A FARMER.

Dr. Miller may be a good writer, (and I spect he is), but he's a mighty poor farmer. He raises too much straw for the grain. No, I mean, that is, I think there's too much grain in the straw. Pshaw! I mean—well, I guess I'll give it up this time. But I know he ain't any farmer, no way.—Observer, in *Progressive*.

THE DADANTS AND LARGE HIVES.

The "Home of the Honey-bees" has again been favored with a call from another prominent bee-keeper and supply-man. This time it was C. P. Dadant, the foundation-maker, of Hamilton, Ill. Unlike some of our recent visitors he did not call in the interest of his health to see Dr. Lewis, preparatory to going onto the beef-diet cure. Oh, no! he was the very picture of health. Typhoid fever had left him (as it often does its victims) several notches better in health.

It will be remembered that the Dadants have been the pioneers in the advocacy of large hives—not simply ten frame Langstroth, but ten-frame Quinby—frames that are 18½x11½ in. Instead of the L. size, 17½x9½ inches. When I asked C. P. how they still stood on the hive question he replied that they were of the same opinion still. They have tested the matter over and over again on an extensive scale, with whole apiaries,

only to find in every case that the large Quinby gave the best results. They had no "ax to grind," as it made no difference to them which style of hive or frame was adopted.

I told him it must be somewhat encouraging to them to note that, while they at first apparently stood alone, now a change toward their views and practice seemed to be slowly coming on. Yes, he said they long ago decided that time would vindicate their position.

In France the large Dadant-Quinby hive, among intelligent bee-keepers, is almost the standard.

The Dadants keep now only about 350 colonies. They have kept as many as five and six hundred. Besides their large foundation business, and the bees, they are extensive growers of grapes. C. P. looks after their business interests while the elder Dadant attends more strictly to bee-literature. While he has not written much of late for the bee-journals of this country, he is a constant contributor to the French journals; and in that country, if I am correct, he is counted as the highest authority.—*Gleanings Editorial*.

FLAVOR OF EXTRACTED HONEY.

QUESTION.—What is the best plan to preserve the flavor of extracted honey?

ANSWER.—To give extracted honey a fine flavor it must be thoroughly ripened. While some have evaporators, both sun and other, which they run extracted honey through or over, that has been extracted in its thin or green state, till it is of nice quality and consistency, as well as having an excellent flavor; yet, in my opinion, no honey has quite as nice flavor as does that which has been left on the hive till the end of the season, the bees having been allowed to ripen it till it is so thick that it will almost stand alone after being taken from the comb. Of course, it is more work to extract such honey; but by keeping it in a room whose temperature is nearly or quite 100°, for four or five hours, it can be extracted very nicely. When extracted, honey should be stored in tin or earthen vessels, and kept in a dry, warm atmosphere that is free from odors. Loosely cover, and let it stand in this warm, dry store-room till all the air-globules have disappeared, the scum that arises being skimmed off, when the honey can be put into glass or tin vessels, ready for sale or family use, and it will retain its fine flavor for years if kept in a proper place.—G. M. Doolittle, in *Gleanings*.

TWO COLONIES IN ONE HIVE.

Mrs. A. L. Hallenbeck says in *Progressive*: "Last year I put all the weak colonies two in a hive with division-boards between them. Nearly all of them came out one colony in the spring, managing in some way to get together. Would it not have been just as well to unite them in the fall?"

Others have practiced the same thing. Mrs. H., and only failed when a passage was left in the division-board. Make this tight, and you're at least better off in the number of queens.

EIGHT-FRAME HIVE WORKED IN TWO STORIES.

Now, in working for comb honey (and I work almost exclusively for that), I put a second hive-body, full of drawn-combs, about May 1, on all strong colonies. That makes a 16-frame hive, and (I have had no trouble about queens refusing to go up into the upper story when crowded for room below) that gives all colonies a chance to build up strong for the honey-harvest, which begins here about June 10, from white clover. At the beginning of the honey-harvest I take off all those second stories. I fill up the under story, or hive proper, with brood, of course being sure the queen is below; and if there is any more brood than will fill up the hive I strengthen up weak colonies with it, or make increase. In this way I confine my working force on eight frames; and by putting on the surplus-arrangements as soon as the second story is taken off I always get my share of the honey, if there is any to get. I do not want any larger hive than the eight-frame, for comb honey, for eight frames give all the brood room I want after putting on the surplus-arrangement; and if I used a larger hive I should have to use dummies; and I do not like to use them, for various reasons. I also find, when wintered in the cellar, the above hive gives all the room necessary for winter stores; and an eight-frame hive full of bees makes a pretty strong colony, and the eight-frame hive is much handier to lift in and out of a cellar. When bees are kept where the person keeping them has too much other work to do to attend to them properly, I think a large hive would be preferable; but for a practical bee-keeper who understands the proper manipulation of bees, the eight-frame hive is about right here.—F. L. Murray, of Wisconsin, in *Gleanings*.



George W. York, - - Editor.

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Editorial Budget.

A Merry Christmas to all the readers of the old American Bee Journal is my sincerest wish at this most joyful season of the whole year.

Mr. Frank B. Pease is a rising attorney here in Chicago. At one time he was my room-mate, and so I feel that I know him quite well. His office is Room 1214 Tacoma Building, corner Madison and La Salle Streets. Now I think he would be a good man to whom to refer any complaint that a reader of the American Bee Journal may have against any one here in Chicago. I am sure Mr. Pease will treat you fairly, and will attend to any business placed in his hands with promptness and satisfaction. Often complaints are sent to me, and I am asked to look them up and report. I have not the time to do it, while Mr. Pease has. That is his business. When writing him, just say you saw this notice in the Bee Journal, and he will take special interest in you and your requests.

That "**Observer**" Man, in the December Progressive Bee-Keeper, referring to Editor Leahy's recent Chicago and general-visiting-around trip, says: "Wish we all could be editors for awhile, don't we?" That's not a good observation, "Observer." Especially if you'd want to be an editor just so you could have a chance to "go for" some body, or simply to go and see some one. Lots of people imagine an editor has a very easy job. But such people know more about bee-keeping in the moon than about editing and publishing bee-papers. After nearly twelve years' experience around a bee-paper office—such experience as I've had—those would-be editors, I'm inclined to think, would sing a different tune. "Observer," "things are not always what they seem." Better be contented with your present way of living, rather than to hanker after an editor's job—unless you want to work both day and night.

The End of 1895 has come, so far as Volume XXXV of the American Bee Journal is concerned. This is the last number for this year. The record is written—the book is finished. I trust that all who have traveled along with the Bee Journal the past year, will conclude to continue through 1896. I am sure I don't wish to part company with one of the readers, and I hope we shall all be permitted to keep on the way together.

I am deeply grateful for past favors, and confidently look for increased support by wide-awake bee-keepers everywhere, in order to enable the old American Bee Journal to retain its

proud position of being *the best* as well as the oldest bee-paper in America. The Bee Journal and its excellent and able corps of contributors have done their full share toward all the advance steps of modern and progressive bee-culture; and it has endeavored to keep its readers fully informed concerning all apian developments as far as they have arisen and secured a foothold.

The past long years of successful efforts of the American Bee Journal can be but its guaranty for the future. What it has been in all that is good and helpful it will try to improve upon, until it shall shine forth to enlighten and guide every true bee-keeper who will permit it to brighten his pathway.

Bees in Winter is a small pamphlet we are entirely out of, and we expect to have no more of them. It was a chapter taken from the book "*Bees and Honey*."

The American Bee-Keeper most cordially endorses the Report of the Amalgamation Committee, in the following paragraph:

We think the report is acceptable in every way, and should be adopted by the so-called North American Bee-Keepers' Association as soon as possible. The Union is an association which has been and will be of great benefit to the bee-keeping fraternity, while the North American is, and has always been, of no benefit to any but a few who receive various pecuniary benefits or the questionable honor of holding an office. Long live the Union.

Just why the editor of the American Bee-Keeper should think it necessary to speak so lightly of those who have for many years stood by the North American, I cannot understand. Surely, some of the very best men have been among its office-holders, and labored hard to place bee-keeping upon an enduring basis long before Editor Merrill or I were known to the bee-keeping world. I don't believe the writer of that paragraph wants all of it taken in earnest.

The Southwest Texas bee-keepers' convention at Wharton, Tex., Dec. 26 and 27, will be well taken care of. Mr. W. O. Victor, of that place, says in a private letter that he is making arrangements to entertain a large crowd, and will do all in his power to make it pleasant for all who attend. Better go, for those Texas folks know just how to have a good time at a bee-convention. I hope it will be a Victor-ious meeting!

Yes, You Can Afford to take the Bee Journal next year—in fact, you *can't* afford to be without it. My word for it, the old American Bee Journal will be better than ever in 1896. It will contain more good, practical matter on bees than any preceding year's numbers. That's saying a good deal, but you'll see it will prove true, if you continue on the list of regular subscribers.

This may be the last number of the Bee Journal you will get. Just think over all the valuable things that have appeared in its pages this year, and then say whether you can afford to be without its weekly visits. I don't believe a single subscriber will permit us to stop his or her subscription, if he or she is at all interested in bee-keeping. Better drop off something else, rather than let your "Old Reliable" friend stop coming to see you.

Hadn't you better say, "Come on, Old Bee Journal; here's my dollar for another year?"

Query No. 1000 is answered in this issue of the Bee Journal. Think what that means! Consider the amount of information the replies to the 1000 questions have contained! For just 11 years now the query department has been continued in this journal—an average of a trifle over 90

questions being answered in a year. It is one of the strong points of the Bee Journal, and while other bee-papers have at various times begun a query-box department, sooner or later they have dropped it out. The Bee Journal is the only one that has continued it with scarcely a break.

With 1896 the questions will begin again with No. 1, and run on toward the 1000 mark as before.

The able corps of experts who have so kindly and wisely answered the many questions propounded during the past 11 years, are entitled, and I believe have, the unanimous thanks of the Bee Journal readers for their efforts to freely give the best replies they knew to each and every question asked. Most of those whose names appear in the Query-Box department, I believe, have been with it from the very first year. Only a few times have the ranks been broken by death—so infrequently that it is almost a "charmed circle." Long may the veterans live to continue to give out the results of their ripened apiarian experience!

The Annual Index appears in this number, as usual. It forms a sort of recapitulation of the contents of the Bee Journal for 1895. What a mass of information it indicates! Over 800 large pages, and thousands of topics compressed into about 4 pages of index! I think a little just pride in the results attained in the Bee Journal this year may be pardoned. I am sure all who have read it carefully have been repaid many times for the small subscription price invested. Those who preserve their weekly copies of the Bee Journal will value this index number very highly, as it is a great aid in referring to everything that has appeared during the present year.

Question-Box.

In the multitude of counsellors there is safety.—Prov. 11-14.

What About Numbering Hives?

Query 1,000.—1. Is it advisable to number hives?

2. If so, should the numbers be permanently attached to the hive, or detachable?—Mo.

H. D. Cutting—1. Yes. 2. Detachable.

Rev. M. Mahin—1. Yes. 2. Detachable.

P. H. Elwood—I have never used numbers.

Chas. Dadant & Son—1 and 2. Yes, paint it on the hive.

W. G. Larrabee—1. Yes. 2. I use them permanently attached.

R. L. Taylor—1. If the apiarist has plenty to do, I hardly think it is.

J. A. Green—1 and 2. I prefer to number the location, not the hive.

W. R. Graham—1. It is well enough, but not essential. 2. I prefer the numbers detachable.

J. M. Hambaugh—1. Yes. 2. My numbers are detachable, yet this is of minor importance.

E. France—1. Yes, if you want to keep a record of what you are doing. 2. Attached to the hives.

Rev. E. T. Abbott—1. I do not know; it all depends upon what you want to do with them, how many you have of them, and the fellow who is to handle them. Fix them the way you can get the most

honey for the least money. 2. This, like selecting a wife, is a thing in which every one should suit himself. On general principles, the less there is loose about a hive the better it suits me; but you may not be "built that way."

G. M. Doolittle—I used to number hives, but do not now, as I see no real advantage in it for Doolittle.

Mrs. L. Harrison—1. The last four years it made no difference whether numbered or not. 2. Best detachable.

Eugene Secor—1. There are some advantages in the practice. 2. I think I prefer the numbers on tags, detachable.

B. Taylor—1. I have never made numbering hives pay for the trouble. 2. If I used numbers, I would have them detachable.

Jas. A. Stone—1. Yes. 2. I think they ought to be painted on the hives, then a corresponding number on the stand they occupy.

Mrs. J. N. Heater—1. It is more convenient if you have many, or wish to keep a record. 2. I paint the numbers on permanently.

Dr. J. P. H. Brown—1. Whether it is advisable or not, depends upon how swarming is managed and colonies worked. 2. It is best to have them detachable.

Prof. A. J. Cook—1. It is absolutely necessary if we keep track by note-book. 2. I prefer card or slate. If I used numbers, I prefer card, so as to change if I desire.

Allen Pringle—1. It is advisable for some people, but is not necessary for all. When I first set out in bee-keeping on my own account, I carefully numbered all my hives (painted the numbers on), and had ever so much more "clock-

A New Binder for holding a year's numbers of the American Bee Journal, we propose to mail, postpaid, to every subscriber who sends us 15 cents in addition to paying for his or her subscription for 1896. It is called "The Wood Binder," is patented, and is an entirely new and very simple arrangement. Full printed directions accompany each Binder. Every reader should get it, and preserve the copies of the Bee Journal as fast as they are received. Why not begin with Jan. 1 to save them? They are invaluable for reference, and at the low price of the Binder you can afford to get it yearly.

If your subscription is already paid for 1896, send 15 cents for the Binder. If any one desires two of the Binders—one for 1895 and one for 1896—send 25 cents, and they will be mailed to you.

Wisconsin Farmers' Institutes is a book of about 300 pages, nicely bound in cloth, edited by Mr. Geo. McKerron, Supt., Madison, Wis., to whom application may be made for copies. Prices to those outside the State are, 25 cents for the paper-covered edition, and 40 cents for the cloth-bound; to Wisconsin farmers, 10 cents for the former, and 25 cents for the latter. It is finely illustrated, and a very complete and interesting work—a sort of "Hand-Book on Agriculture."

Two Ill-Paid Benefactors is the subject of an interesting article by Mr. Wm. H. Coleman, in the New York Independent for Nov. 21, 1895. One of the two was Father Langstroth, to whom Mr. Coleman pays a fine tribute. For 10 cents, a copy of that number of The Independent can be obtained. It is a splendid issue, being a special "Book Number." Address, 130 Fulton St., New York, N. Y.

work," fuss and routine than I have now. I keep a record of the colony's season's doings on a little paper under the cover, and on the cover. Before putting the bees into winter quarters I remove these records (which, of course, show the age of the queens), numbering them from one up, and putting the same numbers to correspond, in pencil, on the hives. In the spring, when the hives are gone over and examined, these records are returned to their proper places. 2. Detachable.

Dr. C. C. Miller—1. I think it is for me. 2. I want the tags easily detachable, so that if I let two hives exchange stands, the tags can be exchanged. The number on a given stand always remains the same.

C. H. Dibbern—1. I have abandoned numbering hives, as in my management I would get mixed up all over the yard, i. e., they would not remain in consecutive order. 2. If I used numbers, I should prefer them detachable.

J. E. Pond—1. That is just as one fancies. I deem it an advantage, myself, as I can then easily keep a record of them. 2. I use numbers that can be removed easily, if so needed. A small, square piece of metal, with the number stamped or engraved on it, that can be hung on the hive, I find cheap and very handy.

G. W. Demaree—1 and 2. I don't do it now-a-days, and cannot advise it. But when I did number my hives, years ago, I learned not to number them *permanently*, because I often found it necessary to remove the bees bodily from a hive into another, in order to repair the one I moved the bees out of. I prefer to use a chalk-mark, understood by myself only, varied to suit all conditions.



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THE BEE-KEEPER

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